

## PATENT

## PENDING CLAIMS AS AMENDED

Current listing of the claims:

1. (Original) In a wireless communication system, a method for supporting power control for a plurality of channels via a common feedback stream, comprising:
  - receiving a plurality of transmissions on the plurality of channels;
  - determining signal quality of the transmission received on each channel;
  - generating power control information for each channel based on the determined received signal quality for transmission received on the channel;
  - multiplexing power control information generated for the plurality of channels on a plurality of feedback substreams defined based on the feedback stream; and
  - transmitting the plurality of feedback substreams.
2. (Original) The method of claim 1, wherein each feedback substream is assigned to a respective channel to be independently power controlled.
3. (Original) The method of claim 1, wherein the feedback stream is formed by a power control field transmitted in a series of slots, with each slot corresponding to a particular time interval.
4. (Original) The method of claim 3, wherein the power control information generated for each feedback substream is transmitted in the power control field.
5. (Original) The method of claim 3, wherein each feedback substream is assigned to a respective set of slots.
6. (Original) The method of claim 5, wherein the slots assigned to the plurality of feedback substreams are selected based on a particular repeating pattern.
7. (Original) The method of claim 3, wherein two feedback substreams are defined.

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8. (Original) The method of claim 7, wherein the slots assigned to the two feedback substreams are selected based on an "n-m" pattern, wherein n slots are assigned to a first feedback substream for every m slots assigned to a second feedback substream.
9. (Original) The method of claim 8, wherein the "n-m" pattern is either "1-1", "2-1", "4-1", or "14-1".
10. (Original) The method of claim 1, wherein each feedback substream is associated with a respective feedback rate, and wherein an aggregate feedback rate for the plurality of feedback substreams is equal to or less than the feedback rate of the feedback stream.
11. (Original) The method of claim 10, wherein two feedback substreams are defined, wherein the feedback rate for a first feedback substream is 1000 command/second or greater, and wherein the feedback rate for a second feedback substream is 500 command/second or less.
12. (Original) The method of claim 1, wherein the plurality of channels include a dedicated channel and a shared channel.
13. (Original) The method of claim 12, wherein the plurality of feedback substreams are utilized for feedback during time periods when the shared channel is assigned for transmission, and wherein the feedback stream is utilized for feedback during time periods when only the dedicated channel is assigned.
14. (Original) The method of claim 12, wherein the feedback substream assigned to the dedicated channel has a higher feedback rate than that of the feedback substream assigned to the shared channel.
15. (Original) The method of claim 1, wherein the power control information generated for at least one channel comprises power control bits indicative of whether the received signal quality is above or below a target level.
16. (Original) The method of claim 1, wherein the power control information generated for at least one channel comprises values indicative a received signal-to-noise-plus-interference ratio.

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17. (Original) The method of claim 1, wherein the wireless communication system conforms to W-CDMA standard.

18. (Original) The method of claim 17, wherein the plurality of channels include a downlink dedicated physical channel (downlink DPCH) and a physical downlink shared channel (PDSCH).

19. (Original) In a W-CDMA communication system, a method for supporting independent power control for two channels via a common feedback stream, comprising:

- receiving two transmissions on the two channels;
- determining signal quality of the transmission received on each channel;
- generating power control information for each channel based on the determined received signal quality for transmission received on the channel;

- multiplexing power control information generated for the two channels onto first and second feedback substreams defined based on the feedback stream, wherein the first feedback substream has a feedback rate of 1000 commands/second or greater and the second feedback substream has a feedback rate of 500 commands/second or less; and

- transmitting two feedback substreams.

20. (Original) In a wireless communication system, a method for supporting power control for a plurality of channels via a plurality of feedback substreams, comprising:

- receiving a plurality of transmissions on the plurality of channels;
- determining signal quality of the transmission received on each channel;
- generating power control information for each channel based on the determined received signal quality;

- multiplexing power control information generated for the plurality of channels on a plurality of feedback substreams, wherein each feedback substream is defined by a respective field in each slot of a feedback subchannel; and

- transmitting the plurality of feedback substreams.

21. (Original) The method of claim 20, wherein the plurality of feedback substreams have equal feedback rates.

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22. (Original) The method of claim 20, wherein two feedback substreams are defined by two fields in each slot.

23. (Original) The method of claim 22, wherein the two fields have equal number of bits.

24. (Original) A power control unit for use in a wireless communication system, comprising:

a signal quality measurement unit configured to receive and process a plurality of transmissions on a plurality of channels to determine signal quality of the transmission received on each channel; and

a power control processor coupled to the signal quality measurement unit and configured to generate power control information for each channel based on the determined received signal quality, and to multiplex power control information generated for the plurality of channels onto a plurality of feedback substreams defined based on a single feedback stream.

25. (Original) The power control unit of claim 24, wherein the plurality of feedback substreams are assigned to respective sets of slots, with each slot corresponding to a particular time interval.

26. (Original) The power control unit of claim 25, wherein two feedback substreams are defined.

27. (Original) The power control unit of claim 26, wherein the slots assigned to the two feedback substreams are selected based on an "n-m" pattern, wherein n slots are assigned to a first feedback substream for every m slots assigned to a second feedback substream

28. (Original) The power control unit of claim 27, wherein the first feedback substream has a feedback rate of 1000 command/second or greater and the second feedback substream has a feedback rate of 500 command/second or less.

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